

REMARKS

Claims 1-9 are pending in the application.

In the Office Action, the Examiner rejected claims 1-2, as being unpatentable over U.S. Patent Number 6,633,550 to Gärdenfors et al. in view of U.S. Patent Number 5,287,556 to Cahill.

Claims 3-9 were rejected as being unpatentable over Gärdenfors et al. in view Cahill, and further in view of U.S. Patent Number 6,490,441 to Saito and U.S. Patent Number 6,466,270 to Ichihara.

In view of the arguments that follow, Applicant respectfully traverses the Examiner's rejection of claims 1-9.

Rejection Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-2 as being unpatentable over Gärdenfors et al. in view of Cahill. The rejection is respectfully traversed.

Applicant's claim 1 recites a transmitter-receiver circuit comprising: a band pass filter which extracts a desired frequency component from a receiving signal; a low pass filter which removes an unnecessary frequency component from a transmitting signal; and adjustment signal generating means, provided in association with the band pass filter, for generating a frequency adjustment signal, so as to adjust band pass characteristics of the band pass filter, wherein: the band pass filter has a first adjustment means for adjusting the band pass characteristics in response to the frequency adjustment signal and, the low pass filter is provided in a chip in which the

band pass filter is provided, and has second adjustment means for adjusting a cut-off frequency of the low pass filter in response to the frequency adjustment signal which is generated in the adjustment signal generating means.

The Examiner alleged that Gärdenfors et al. disclose a transceiver circuit comprising: a band pass filter which extracts a desired frequency component from a receiving signal, by referencing reference numeral 120 in Fig. 4; and a low pass filter which removes an unnecessary frequency component from a transmitting signal, by referencing reference numeral 124 in Fig. 4; wherein the low pass filter is provided in a chip in which the band pass filter is provided, by referencing Fig. 4, col. 1, lines 43-55, and col. 6, lines 17-47. The Examiner admitted that Gärdenfors et al. do not disclose that the band pass filter has a first adjusting means (variable band pass filter) and the low pass filter has a second adjusting means (variable low pass filter), for adjusting band pass characteristic and cut-off frequency respectively in response to frequency adjustment signal of an adjustment signal generating means (frequency controller).

To cure the deficiencies of Gärdenfors et al., the Examiner alleged that the transceiver circuit, comprising variable filters wherein their characteristics (bandwidths or cut-off frequencies, or Q points) controlled by filter controllers, is common in the art as suggested by Cahill, by referencing Figs. 1, 3, and 5; the abstract; col. 2, lines 1-11; col. 2, line 32 to col. 3, line 4; and col. 4, line 65 to col. 5, line 25. According to the Examiner, it would have been obvious to one of ordinary skill in the art to reconfigure the transceiver circuit as disclosed by Gärdenfors et al. with a variable band pass and low pass filter controlled by a controller for the advantage of enhancing the signal quality.

Applicant respectfully submits that neither Gärdenfors et al. nor Cahill, taken singly or in combination, (assuming these teachings may be combined, which Applicant does not admit) disclose or teach a transmitter-receiver circuit that includes "the band pass filter has a first adjustment means for adjusting the band pass characteristics in response to the frequency adjustment signal and, the low pass filter is provided in a chip in which the band pass filter is provided, and has second adjustment means for adjusting a cut-off frequency of the low pass filter in response to the frequency adjustment signal which is generated in the adjustment signal generating means," as recited in claim 1.

Gärdenfors et al. disclose a radio transceiver integrated in one IC chip that includes a band pass filter that performs channel selection for a low IF from an image-rejection mixer and a low-pass shaping filter to suppress an out-of-band signal power (see col. 6, lines 16-42). However, there is nothing in Gärdenfors et al. that discloses an adjustment signal provided in association with the band pass filter "for adjusting the band pass characteristics in response to the frequency adjustment signal" from the adjustment signal generating means, and a second adjustment means for "adjusting a cut-off frequency of the low pass filter in response to the frequency adjustment signal which is generated in the adjustment signal generating means."

Cahill does not cure the deficiencies of Gärdenfors et al. Cahill merely discloses a radio receiver circuit that has variable bandwidth received channel filters that reduce interference (see abstract). A filter controller is provided as a digital signal processor to determine when adjacent channel interference is present. The filter controller accepts a bit error rate from a decoder and the AGC signal strength output from an energy estimator to

select from a range of receiver filter passbands to optimize the bit error rate when a poor bit error rate and a strong signal strength are received simultaneously (see col. 4, lines 55-64). If the bit error rate exceeds a bit error rate threshold, the passband of the received channel filters are reduced by one passband increment (see col. 5, lines 16-18). Cahill further discloses a transceiver controller logic that receives an output from a decoder and processes signals received by the receiver to send to a transmitter for a transceiver operation. The entire method of reducing interference of Cahill comprises a radio receiver and not a "transmitter-receiver circuit." The output of a decoder and energy estimator in the radio receiver is coupled to a transceiver controller to process signals for a transceiver operation and for receiving signal strength indication. However, the filter controller in the radio receiver of Cahill for increasing a filter bandwidth in accordance with a magnitude bit error rate is not analogous to "adjusting band pass characteristics" in a band pass filter "in response to the frequency adjustment signal" and "adjusting a cut-off frequency of the low pass filter in response to the frequency adjustment signal."

In view of the above reasons, Applicant respectfully submits that neither Gärdenfors et al. nor Cahill, taken singly or in combination, disclose or teach claim 1 and the rejection of claims 1 should be withdrawn. The rejection of dependent claims 2-8 should also be withdrawn for at least the same reasons given above with regard to independent claim 1, based on the claims dependency.

Applicant also respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine the reference teachings. Second, the proposed modification of the prior art must have had a reasonable expectation of succeeding, as determined from the vantage point of a skill artisan at the time the invention was made. Third, the prior art references, when combined, must teach or suggest all the claim limitations. See M.P.E. P. §2143.

In view of the above reasons, Applicant respectfully submits that the asserted combination of Gärdenfors et al. and Cahill, fails to establish a *prima facie* case of obviousness of independent claim 1, or any claim depending therefrom.

Conclusion

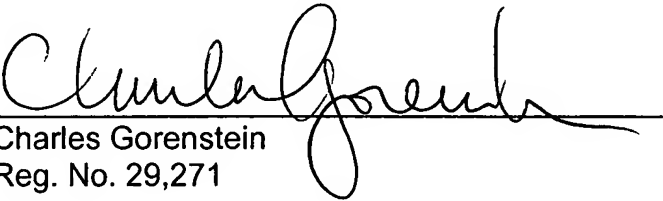
In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration and reexamination of the application and the timely allowance of the pending claims. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Demetra R. Smith-Stewart (Reg. No. 47,354), to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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